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Coal Measure plants.—Our knowledge of the flora of the British Coal Measures has been enriched by recent contributions from KIDSTON⁴ and ARBER.⁵ The former paper is devoted to a description of the plants secured from the beds cited in the title. Among the forms referred to the ferns, 20 genera are included, represented by about 60 species. New species are described under *Sphenopteris*, *Pecopteris*, and *Neuropteris*; while a new sporangium genus (*Coseleya*) is proposed, which may represent the microsporangium of one of the Cycadofilicales. Among the Equisetales, 7 genera are included, represented by 25 species, among which is a new species of *Palaeostachya*. The Lycopodiales are represented by 12 genera, including 34 species, among which are new species of *Sigillaria* and *Lepidocarpon*. There is also a new *Sphenophyllum*. The Cordaitales are represented by 9 species. Eight new seeds are described under *Samaropsis*, *Tripterosperrum* (2), *Polypterosperrum*, *Lagenostoma* (2), *Rhabdocarpus*, and *Hexagonocarpus*. A new species of *Whittleseyia*, a genus usually referred to Ginkgoales, calls forth the opinion of the author that it is more related to Cycadales.

ARBER's paper, as its title implies, is more concerned with the geology of the beds investigated, but it lists a large number of the plants that are made the basis of conclusions as to comparative stratigraphy. Among them two new species of *Sigillaria* are described.—J. M. C.

The embryo sac of *Peperomia*.—FISHER⁶ has extended our knowledge of the embryo sac situation in *Peperomia* by a study of additional species, chiefly from Jamaica. The investigation included 8 species of *Peperomia* and also *Piper tuberculatum*. In all the species of *Peperomia* the mature sac is 16-nucleate, one nucleus maturing as the egg nucleus, another one as a synergid, 6-9 fusing to form the primary endosperm nucleus, and the remainder cut off individually by walls and later degenerating. In connection with the first two divisions of the mother cell, evanescent walls appear and reduction occurs, the conclusion being clear that the first 4 nuclei of the sac are megaspore nuclei. In *Piper* the mature sac is 8-nucleate, and is developed directly from the mother cell.

The author reaches the general conclusion that all of the peculiarities of the sac are derived, and that therefore the embryo sac of *Peperomia* does not represent a primitive condition.—J. M. C.

⁴ KIDSTON, R., On the fossil flora of Staffordshire coal fields. III. The fossil flora of the Westphalian series of the South Staffordshire coal fields. Trans. Roy. Soc. Edinburgh 50:73-190. pls. 5-16. 1914.

⁵ ARBER, A. E. NEWELL, On the fossil floras of the Wyre Forest, with special reference to the geology of the coal field and its relationships to the neighboring Coal Measure areas. Phil. Trans. Roy. Soc. London B 204:363-445. pls. 26-29. 1914.

⁶ FISHER, G. CLYDE, Seed development in the genus *Peperomia*. Bull. Torr. Bot. Club 41:137-156, 221-241. pls. 3-6. 1914.